

**BEST AVAILABLE COPY****REMARKS/ARGUMENTS**

Claims 1-14 are pending in the application. Claim 10 has been amended to read consistent with Claim 1 indicating that the second coating comprises an inorganic or an inorganic-organic hybrid coating. Support for the amendments can be found at page 9, lines 18-19 and page 12, lines 19-24. Claims 3, 4, and 5 have been amended to correct punctuation.

**Rejection under 35 U.S.C. §§ 102(e)**

Claims 10-12 stand rejected under 35 U.S.C. § 102(e) as anticipated by WO 01/98393 A1 as evidenced by U.S. Patent No. 4,292,350 to Kubitza et al. (hereinafter "Kubitza"). Applicants respectfully request reconsideration.

The present invention as recited in Claim 10 is directed to a process for the production of a protective covering comprising applying in a first step a two-component polyurethane adhesion promoter (primer) containing alkoxysilyl groups and applying in a second step an inorganic or inorganic-organic hybrid coating to a substrate.

WO 01/98393 A1 discloses two-component coating compositions having a binder component (I) and a hardener component (II). Binder component (I) has at least one active hydrogen containing compound. Hardener component (II) has an isocyanate functional compound (A), and a silane oligomer (B) containing at least two free isocyanate groups. Example 4 illustrates an organic clearcoat composition over the two-component coating composition.

Kubitza discloses that conventional blurets of HDI have an isocyanate content of 23.5 weight percent and a functionality greater than 3.

Applicants sought to provide protective coverings, in particular for polymeric substrates, to protect substrates from mechanical damage and/or environmental influences, such as, for example, UV light or contamination, which are not susceptible to optical impairment or inadequate stability due to weathering. Applicants were able to solve the problem by using the protective covering of the amended claims.

WO 01/98393 A1 provides a generic description of two-component coating compositions and does not disclose, or in any way suggest applying a second coating that contains an inorganic or an inorganic-organic hybrid coating to a

substrate. Thus there is no disclosure, suggestion, or motivation in WO 01/98393 A1 to apply a second coating that contains an inorganic or an inorganic-organic hybrid coating as is presently claimed.

In order to anticipate a claim, a prior art reference must disclose every limitation in the claim. As WO 01/98393 A1 does not disclose applying a second coating that contains an inorganic or an inorganic-organic hybrid coating to a substrate, it cannot anticipate the claims and the rejection under 35 U.S.C. § 102(e) should be withdrawn.

**Rejections under 35 U.S.C. §§ 103(a)**

Claims 1-9 and 14 stand rejected under 35 U.S.C. § 103(a) as being obvious over WO 01/98393 A1 as evidenced by Kubitz in view of U.S. Patent No. 6,136,939 to Mager et al. (hereinafter "Mager"). The Examiner indicates that it would have been obvious to use the coatings disclosed in Mager as a top coating in WO 01/98393 A1 to provide anti-graffiti properties to the prepared articles. Applicants respectfully request reconsideration.

Mager discloses oligomers in organic solvents obtained by condensing identical or different cyclic organosilanes. The oligomers can be used to coat particles, coat plastics in order to improve mechanical strength, as an anti-graffiti coating on mineral and metallic substrates or organic coatings and for hydrophobising substrates, for example of stone or glass (col. 2, lines 25-32).

As indicated above, WO 01/98393 A1 discloses two-component coating compositions having a binder component (I) and a hardener component (II). Binder component (I) has at least one active hydrogen containing compound. Hardener component (II) has an isocyanate functional compound (A), and a silane oligomer (B) containing at least two free isocyanate groups.

The standard for obviousness under 35 U.S.C. § 103(a) was established in Graham v. John Deere Co., 383 U.S. 1 (1966). "Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved." Graham, 282 U.S. at 17. In order to establish a *prima facie* case of obviousness under this standard, the USPTO must satisfy all of the following requirements. First, the prior art relied upon, coupled with the knowledge generally available in the art at the time of the invention, must contain some suggestion or

incentive that would have motivated the skilled artisan to modify a reference or to combine references. In re Fine, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Second, the proposed modification must have had a reasonable expectation of success, as determined from the vantage point of one of ordinary skill in the art at the time the invention was made. Amgen v. Chugai Pharmaceutical Co. 18 USPQ 2d 1016, 1023 (Fed. Cir. 1991), *cert. denied* 502 U.S. 856 (1991). Third, the prior art reference or combination of references must teach or suggest all of the limitations of the claims. In re Wilson, 165 USPQ 494, 496, (CCPA 1970).

The scope and content of the prior art:

WO 01/98393 A1 discloses applying a primer coating containing alkoxysilyl groups followed by an organic coating over a metal, plastic or glass substrate.

Mager discloses applying a coating of oligomers obtained by condensing identical or different cyclic organosilanes over an organic coating over aluminum, porous, plastic, glass or stone substrates.

The scope of the present claims:

The present claims are directed to a two-component polyurethane coating containing alkoxysilyl groups as a first layer and an inorganic or inorganic-organic hybrid coating as a second layer over a polycarbonate substrate.

Difference between the prior art and the claims at issue:

There is no disclosure in WO 01/98393 and/or Mager to coat a polycarbonate substrate with a first layer polyurethane coating containing alkoxysilyl groups and a second layer containing an inorganic or inorganic-organic hybrid coating.

There is no suggestion or incentive that would have motivated the skilled artisan to use the coating of oligomers obtained by condensing identical or different cyclic organosilanes disclosed in Mager in place of the organic second coating in WO 01/98393 A1 because WO 01/98393 A1 only discloses an organic coating and Mager only discloses a first organic coating, not a primer coating containing alkoxysilyl groups as required in WO 01/98393 A1.

There was no reasonable expectation, based on the combination of WO 01/98393 A1 and Mager that the claimed coating would protect polycarbonate substrates from mechanical damage and/or environmental influences, such as, for example, UV light or contamination, which are not susceptible to optical impairment or inadequate stability due to weathering because neither reference discloses or in

any way suggests the polycarbonate substrates or the unique combination of coating layers as is presently claimed.

Thus, the combination of WO 01/98393 A1 and Mager do not teach or suggest all of the limitations of the claims.

For the reasons set forth above, the claims are not obvious over the combination of WO 01/98393 A1 and Kubitz, and Mager because the combined disclosure fails to provide any motivation for a skilled artisan to make the claimed at least two-layer coating. Therefore, the at least a two-layer coating for polymeric substrates of the amended claims is not obvious over the combination of WO 01/98393 A1, Kubitz and Mager and the rejection of Claims 1-9 and 14 under 35 U.S.C. § 103(a) should be withdrawn.

Claim 1-9 and 13-14 stands rejected under 35 U.S.C. § 103(a) as being obvious over WO 01/98393 A1 as evidenced by Kubitz in view of CA 2,267,052. Applicants respectfully request reconsideration.

CA 2,267,052 discloses mixtures prepared from (A) at least one linear, branched, or cyclic monomeric organosilane having at least two silicon atoms with hydrolyzable and/or condensation-crosslinking groups in which the silicon atoms are bonded to one another through at least one carbon atom in a linking unit, and (B) at least one boron- and/or aluminum-containing compound. The mixtures can be applied to a substrate as a second coating over a first organic coating (col. 6, lines 54-67).

The scope and content of the prior art:

WO 01/98393 A1 discloses applying a primer coating containing alkoxysilyl groups followed by an organic coating over a metal, plastic or glass substrate.

CA 2,267,052 discloses applying a coating of organosilane over an organic coating.

The scope of the present claims:

The present claims are directed to a two-component polyurethane coating containing alkoxysilyl groups as a first layer and an inorganic or inorganic-organic hybrid coating as a second layer over a polycarbonate substrate.

Difference between the prior art and the claims at issue:

There is no disclosure in WO 01/98393 and/or CA 2,267,052 to coat a

polycarbonate substrate with a first layer polyurethane coating containing alkoxysilyl groups and a second layer containing an inorganic or inorganic-organic hybrid coating.

There is no suggestion or incentive that would have motivated the skilled artisan to use the coating of organosilanes disclosed in CA 2,267,052 in place of the organic second coating in WO 01/98393 A1 because WO 01/98393 A1 only discloses an organic coating and CA 2,267,052 only discloses a first organic coating, not a primer coating containing alkoxysilyl groups as required in WO 01/98393 A1.

There was no reasonable expectation, based on the combination of WO 01/98393 A1 and CA 2,267,052 that the claimed coating would protect polycarbonate substrates from mechanical damage and/or environmental influences, such as, for example, UV light or contamination, which are not susceptible to optical impairment or inadequate stability due to weathering because neither reference discloses or in any way suggests the polycarbonate substrates or the unique combination of coating layers as is presently claimed.

Thus, the combination of WO 01/98393 A1 and CA 2,267,052 do not teach or suggest all of the limitations of the claims.

For the reasons set forth above, the claims are not obvious over the combination of WO 01/98393 A1 and Kubitza, and CA 2,267,052 because the combined disclosure fails to provide any motivation for a skilled artisan to make the claimed at least two-layer coating. Therefore, the at least a two-layer coating for polymeric substrates of the amended claims is not obvious over the combination of WO 01/98393 A1, Kubitza and CA 2,267,052 and the rejection of Claims 1-9, 13 and 14 under 35 U.S.C. § 103(a) should be withdrawn.

Claim 13 stands rejected under 35 U.S.C. § 103(a) as being obvious over WO 01/98393 A1 as evidenced by Kubitza in view of Mager and CA 2,267,052. Applicants respectfully request reconsideration.

As indicated above, there is no suggestion or incentive that would have motivated the skilled artisan to use the coatings of in Mager or CA 2,267,052 in place of the organic second coating in WO 01/98393 A1 because WO 01/98393 A1 only discloses an organic coating and Mager and CA 2,267,052 only disclose a first organic coating, not a primer coating containing alkoxysilyl groups as required in WO 01/98393 A1.

There was no reasonable expectation, based on the combination of WO 01/98393 A1, Mager and CA 2,267,052 that the claimed coating would protect polycarbonate substrates from mechanical damage and/or environmental influences, such as, for example, UV light or contamination, which are not susceptible to optical impairment or inadequate stability due to weathering because neither reference discloses or in any way suggests the polycarbonate substrates or the unique combination of coating layers as is presently claimed.

Thus, the combination of WO 01/98393 A1, Mager, and CA 2,267,052 do not teach or suggest all of the limitations of the claims.

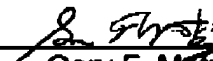
For the reasons set forth above, Claim 13 is not obvious over the combination of WO 01/98393 A1, Kubitza, Mager, and CA 2,267,052 because the combined disclosure fails to provide any motivation for a skilled artisan to make the claimed at least two-layer coating. Therefore, the at least a two-layer coating for polymeric substrates of the amended claims is not obvious over the combination of WO 01/98393 A1, Kubitza, Mager and CA 2,267,052 and the rejection of Claim 13 under 35 U.S.C. § 103(a) should be withdrawn.

**CONCLUSION**

Applicants respectfully request that the present Amendment be entered if for no other reason than to place the application in better form for appeal. Applicants point out that the amendment of Claim 10 makes it a process claim commensurate in scope with Claim 1 and requires no further searching or consideration on the part of the Examiner. For these reasons, Applicants respectfully request that the Amendment be entered.

Applicants assert that the claims are now in form for allowance. In view of the above amendments and remarks, reconsideration of the rejections and allowance of Claims 1-14 are respectfully requested.

Respectfully submitted,

By:   
Gary F. Matz  
Agent for Applicants  
Reg. No. 45,504

Bayer MaterialScience LLC  
100 Bayer Road  
Pittsburgh, PA 15205-9741  
PHONE: (412) 777-3897  
FACSIMILE PHONE NUMBER:  
(412) 777-3902  
jdg/matz/gm007

Mo6676

- 11 -

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**